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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/785,504	02/24/2004	Mansour H. Mohamed	1100-041	9905

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EXAMINER	
EDGAR, RICHARD A	

ART UNIT	PAPER NUMBER
3745	

DATE MAILED: 02/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/785,504	MOHAMED, MANSOUR H.	
	Examiner	Art Unit	
	Richard Edgar	3745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *3 February 2006 under 37 C.F.R. §1.111*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6 and 10-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6 and 10-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *03 February 2006* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Response to Arguments

Applicant's argument filed 03 February 2006 have been fully considered but they are not persuasive.

Applicant has argued that Olsen teaches away from a unitary, integral member since "pieces of carbon fibres in the product" is taught by Olsen in col. 2, lines 49-54. This argument is unpersuasive since the claims recite "woven material" which implies separate pieces. Applicants' drawings, most notably FIG. 2, shows different pieces woven together.

Specification

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Most notably, the specification has not been amended as requested by the examiner in the previous Office action. Applicant has renumbered some of the figures without amending the corresponding portions in the Brief Description of the Invention as well as the Detailed Description of the Invention.

Drawings

The drawings are objected to under 37 C.F.R. § 1.84 (p)(3) because at least figures 1, 6 and 7 use letters and numbers smaller than 1/8 inch in height.

The drawings are objected to under 37 C.F.R. § 1.84 (u)(1) because view numbers must be preceded by the abbreviation "FIG.", not "Figure". Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 2, 5, 10, 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent No. 6,457,943 (Olsen et al. hereinafter) in view of United States Patent No. 5,279,892 (Baldwin et al. hereinafter) in view of United States Patent Application No. 2003/0138290 (Wobben hereinafter).

Olsen et al. show a wind turbine blade spar cap 1 for strengthening a wind blade, comprising: a first end and a second end, corresponding to a root end of the blade and a tip end of the blade (see Fig. 1), the spar cap 1 being capable of being affixed to the blade for providing increased strength (see col. 1, lines 35-36).

Olsen et al. do not teach the material being 3-D woven, nor the spar cap tapering in width between the first and second ends.

Wobben teach a wind turbine blade having a load bearing core profile member 3 which tapers in width between the root and tip ends of the blade (see Fig. 1) for the purpose of reducing the weight of the integral blade.

Baldwin et al. teach a composite blade insert made by weaving composite material in three dimensions (see Figs. 3 and 4), whereby the blade insert is then injected with resin and cut to size during finishing operations (see col. 3, lines 1-10) for the purpose of making a lightweight and strong blade. The fibers 60 arranged in the z-direction secure the fibers 10, 50 of the x- and y-directions (see Fig. 4).

Since Olsen et al. teach a wind turbine blade spar cap made from carbon fibers (col. 2, lines 14-15) and Baldwin et al. teach a carbon fiber (col. 3, lines 47-49) blade made by weaving fibers in three-dimensions, it would have been obvious at the time the

invention was made to a person having ordinary skill in the art to have the carbon fiber material of Olsen et al. be woven, as taught by Baldwin et al. for the purpose of making a lightweight and strong blade.

Further, since the Olsen et al. reference teaches a reinforcing strip in a wind turbine blade, and Wobben teaches that the reinforcing member in a wind turbine blade should taper widthwise in the radial direction, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the width of the Olsen et al. blade spar cap by tapering the width of the cap along the radial direction, as taught by Wobben, for the purpose of reducing the weight of the integral blade.

Claims 3, 4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent No. 6,457,943 in view of United States Patent No. 5,279,892 in view of United States Patent Application No. 2003/0138290 as applied to claim 1 above (the modified Olsen et al. reference hereinafter), and further in view of United States Patent No. 6,447,886 (Mohamed et al. hereinafter).

The modified Olsen et al. reference teaches a three-dimensional woven carbon fiber wind turbine blade spar cap which tapers in width in the radial direction (see previous 35 U.S.C. §103 rejection).

The modified Olsen et al. reference does not teach the composite blade comprising E-glass filaments or the blade comprising a hybrid of carbon and E-glass filaments, or the three-dimensional woven structure including an orthogonal three-dimensional system.

Mohamed et al. teach a three-dimensional woven structure comprising an orthogonal three-dimensional system (see Figs. 4-5) comprising a hybrid of materials, including E-glass and carbon fibers (see col. 6, lines 29-39) for the purpose of making a material with enhanced structural properties.

Since the modified Olsen et al. teaches a three-dimensional blade spar cap used for strengthening purposes, and Mohamed et al. teach a three-dimensional material having enhanced structural properties, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the three-dimensional woven carbon fiber material of the modified Olsen et al. so that the three-dimensional structure is orthogonal and the fibers are a hybrid of E-glass filaments and carbon fibers, as taught by Mohamed et al. for the purpose of enhancing the structural properties of the blade.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Edgar whose telephone number is (571) 272-4816. The examiner can normally be reached on Mon.-Thur. and alternate Fri., 7 am- 5 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Look can be reached on (571) 272-4820. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Richard Edgar
Examiner
Art Unit 3745

RE

EDWARD K. LOOK
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700
4/15/06